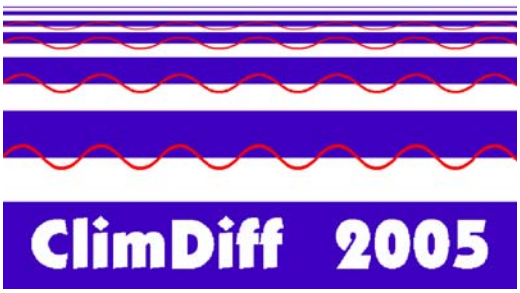
ClimDiff 2005
Cleveland Ohio, USA
Symposium Program



Monday 26 September 2005

0900 – 0930 **Welcome and opening remarks**

0930 – 1030 **Session ClimDiff 1: A variety of measurement programs**
Chairman: Dr David Cole

ClimDiff.11 **A long term propagation measurement campaign**
Dr Mike Willis, Professor Ken Craig, Mr Malcolm Hamer, Mr Roger Stuckey

ClimDiff.12 **An analysis of attenuation characteristic of satellite communication signal associated with Asian sand dust in the frequency range L-band to Ka-band**
Wan-pyo, Hong

ClimDiff.13 **Dynamic aspects of rainfall and attenuation in equatorial regions**
E.Couto de Miranda, L.A.R. da Silva Mello, M.S. Pontes

1030 – 1100 ***Coffee Break***

1100 – 1220 **Session Clim 1: Measurement and modelling of clear-air parameters**
Chairman: Dr Terje Tjelta

Clim.11 **Peculiarities of global distribution of atmosphere absorption at 10-1000 GHz range**
N.V. Ruzhentsev, A.S. Mihaylov

Clim.12 **ERA15 climatological databases for propagation modelling**
C. Riva, A. Martellucci, E. Kubista, M. Schönhuber, L. Luini

Clim.13 **Investigation of vertical structure of the refraction index of atmosphere at the UHF**
Batueva E.V., Darizhapov D.D

Clim.14 **A methodology for modelling the correlation of fading and enhancement on radio links**
K.H.Craig

1220 – 1400 ***Lunch***

1400 – 1500 **Session Clim 2: Measurement and modelling of rain parameters**
Chairman: Dr Emanoel Costa

Clim.21 **Estimation of the cumulative probability distribution function of rainfall rate in tropical climates**
E. Couto de Miranda, M.S. Pontes, L.A.R. da Silva Mello

Clim.22 **Drop axis ratios and polarization dependence in rain: Calculations using 2-dimensional video disdrometer data**
M. Thurai, V. N. Bringi, H. Hanado

Clim.23 **An exceptional rainfall event in the Amazon region**
Jorge L. Cerqueira, Mauro S. Assis, L.A.R. da Silva Mello

Monday (continued)

1500 – 1630 Session ClimDiff 2: Posters

ClimDiff.21 **Arid regions' climate modeling using the Global Positioning System**
A. ArRajehi

ClimDiff.22 **Empirical conversion process of rain rate distribution for various integration time**
Joo-Hwan Lee, Jong-Ho Kim, Yong-Ho Park, Yong-Seok Choi, Jeong-Ki Pack

ClimDiff.23 **A method for the approximation of 1-minute average rain rate for microwave attenuation prediction**
Parshotam Sharma, I S Hudiara, ML Singh

ClimDiff.24 **3D model of multiple diffraction on the obstacles with irregular edges**
Dagurov P.N., Dmitriev A.V.

ClimDiff.25 **Database and atlas of maps of radio refraction of atmosphere's properties**
E.V. Batueva, D.D.Darizhapov, A.J.Novolodskij

ClimDiff.26 **Spatial variability of rain in the Amazon region with application to site diversity in Earth-satellite paths**
Jorge L. Cerqueira, Mauro S. Assis, L.A.R. da Silva Mello

ClimDiff.27 **Atmospheric laser propagation at 0.83μm over densely urbanised terrain**
Erasmus Couto de Miranda

ClimDiff.28 **Frequency scaling for path loss estimation of 5-GHz band around 10-km distance**
Akio Sato, Naoki Kita, Kiyohiko Itokawa, Hironobu Watanabe, Daisuke Mori

ClimDiff.30 **Measurements of differential rain attenuation and cross-polarization discrimination for FWA at 32 GHz**
Hirokazu Sawada, Kiyoshi Hamaguchi, Hiroyo Ogawa

1630 – 1730 Session Clim 3: Measurement and synthesis of rain parameters and effects
Chairman: Prof Marlene Pontes

Clim.31 **Long-term testing of statistics obtained with time series synthesizers of the Ka-band satellite propagation channel**
Joël Lemorton, Laurent Castanet, Frédéric Lacoste, Carlo Riva, Emilio Matricciani, Uwe-Carsten Fiebig, Max Van de Kamp, Antonio Martellucci

Clim.32 **Large scale spatial correlation of both cloud cover and rainfall rate**
Pedro Garcia, Jose M. Riera, Ana Benarroch

Clim.33 **Event-based testing analysis of rain attenuation time series synthesizers for the Ka-band satellite propagation channel**
Frédéric Lacoste, Michel Bousquet, Laurent Castanet, Frédéric Cornet, Joël Lemorton

Tuesday, 27 September 2005

0900 – 1020 **Session Diff 1: <u>Diffraction effects due to buildings and structures</u>**
Chairman: Mr Rainer Grosskopf

Diff.11 **An experimental study on path loss prediction formula in over-rooftops propagation applicable over 2GHz**
Kenya Yonezawa, Hiroyasu Ishikawa, Yoshio Takeuchi

Diff.12 **Ray tracing analysis of the effects of propagation on multiple-input multiple-output (MIMO) channels**
Luciana Silva, Emanoel Costa

Diff.13 **Characteristics of 4x4 MIMO-OFDM channels in indoor environments**
Hajime Suzuki

Diff.14 **Interference in digital television broadcasting due to scattering by wind turbines**
Ian Sharp, Carol Wilson

1020 – 1050 ***Coffee break***

1050 – 1230 **Session Diff 2: <u>Diffraction effects due to terrain</u>**
Chairman: Dr Hajime Suzuki

Diff.21 **Using LiDAR imagery in 27.8 GHz propagation prediction**
Jason M. Cash, Laurence W. Carstensen, Charles W. Bostian

Diff.22 **UMTS macro/micro-cell planning and coverage software tool utilising spatial land use topographical data, diffraction loss and other radio path loss models**
Luis Fernandez Alvarino, Gema Carbonell Bauset, Miqdad Al-Nuaimi

Diff.23 **Application of computationally-intensive propagation models to the prediction of path losses due to mountainous terrain in the VHF frequency band**
Marco Aurélio Nunes da Silva, Emanoel Costa, Markus Liniger

Diff.24 **Field strength prediction using ITU-R P.1546 Recommendation and its modifications.**
Fryderyk Lewicki, Andrzej Ługowski, Przemysław Sporysz, Grzegorz Zagórda

Diff.25 **Planning tool for mountainous terrain**
Markus Liniger, Michael Rohner

1230 – 1400 ***Lunch***

Tuesday (continued)

1400 – 1520 **Session Clim 4: <u>Measurement and modelling of clear-air effects</u>**
Chairman: Prof Gert Brussaard

Clim.41 **Statistical analysis of duration of multipath events in tropical Brazil**
E.Couto de Miranda, L.A.R. da Silva Mello, M.S. Pontes

Clim.42 **K-Band scintillation fade dynamics results based on ACTS data**
Seema Sud, Lynn Ailes

Clim.43 **A discussion of frequency dependence of multipath fading and enhancement on radio links**
Terje Tjelta, Sofus Linge Lystad, Ken Craig

Clim.44 **Statistics of fade slope on a free-space optical communication system at 0.83µm operating over densely urbanised terrain**
E. Couto de Miranda

1520 – 1550 ***Coffee break***

1550 – 1730 **Session Clim 5: <u>Measurement and modelling of precipitation effects</u>**
Chairman: Bertram Arbesser-Rastburg

Clim.51 **Influence of specific meteorological conditions on performance of free space optical link**
Vaclav Kvicera, Martin Grabner

Clim.52 **A study on the prediction of rain fade duration at millimeter wave**
Mio Ishida, Osamu Sasaki, Makoto Yoshikawa, Naoto Takahashi, Kiyoshi Hamaguchi, Hiroyo Ogawa

Clim.53 **A novel simple site-specific rain attenuation prediction model**
A.D. Panagopoulos, P.-D. M. Arapoglou, J. D. Kanellopoulos, P.G. Cottis

Clim.54 **Two-year rain attenuation statistics simultaneously observed in Japan and Indonesia using satellite links to equatorial atmospheric radar**
Yasuyuki Maekawa, Yoshiaki Shibagaki, Toru Sato, Mamoru Yamamoto, Hiroyuki Hashiguchi, Shoichiro Fukao

Clim.55 **Predicting the attenuation distribution on line-of-sight radio links due to melting snow**
Terje Tjelta, Lars Erling Bråten, David Bacon

1730 - 1800 **Closing remarks and thanks**